| Index of Claims |  |
|-----------------|--|
|                 |  |

| Application No. | Applicant(s)   |
|-----------------|----------------|
| 10/689,096      | MATSUDA ET AL. |
| Examiner        | Art Unit       |
| Marc E. Norman  | 3744           |

| <b>√</b> | Rejected | ı | (Through numeral)<br>Cancelled |
|----------|----------|---|--------------------------------|
| =        | Allowed  | + | Restricted                     |

| N | Non-Elected  |  |
|---|--------------|--|
| ı | Interference |  |

| A | Appeal   |
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| 0 | Objected |

| Cla  | im       |               |                 |   | Ī  | Dat        | е        |              |         |              |      | Cla      | im       |          |                  | D             | ate           |                   |          | ) . [       | С     | aim        |          |          |           | D        | ate      | ,        |          | _        |           |
|--|----------|---------------|-----------------|---|--|------------|----------|--------------|---------|--------------|------|----------|----------|----------|------------------|---------------|---------------|-------------------|----------|-------------|-------|------------|----------|----------|-----------|----------|----------|----------|----------|----------|-----------|
|  | al       | 9             |                 |   |  |            |          |              |         |              |      | _        | <u>8</u> |          |                  |               |               |                   |          |             | _     | <u>a</u>   |          |          |           |          |          | -        | ļ        | ı        |           |
| Final  | Original |               |                 |   | l  | l          |          |              |         |              |      | Final    | Original |          | İΙ               |               |               |                   |          |             | Final | Original   |          |          |           | ı        |          | 1        |          |          | - 1       |
| 证  | Ö        | 22<br>64      |                 |   | İ  |            |          |              |         |              | 41   | 正        | Ōri      | İ        |                  |               | -             |                   |          |             | ш     | Ö          |          |          |           | -        |          | ł        |          | -        | -         |
|  | 6        | $\overline{}$ |                 |   | ⊢  | ┡          | ╀        | -            | +       | +            |      |          |          |          | $\vdash$         | -+            |               |                   |          |             |       |            |          |          |           | _        | $\dashv$ | -        | +        | $\dashv$ | ᅥ         |
|  |          | 7             | -               | _ |  | ┢          | ┢        | -            | +       | -            | - 1  |          | 51<br>52 | _        | $\vdash$         |               |               | +                 | +        | - "         |       | 101        | _        | -        | $\dashv$  |          | $\dashv$ | $\dashv$ | -+       | $\dashv$ | ᅥ         |
| -  | 3        | _             |                 | _ | H  | ⊢          | ┢        |              | ╁       | -            |      |          | 53       | -        | -                | +             | -             | +                 | +        |             |       | 102        |          | $\dashv$ | ᅱ         | -        | ᅱ        | $\dashv$ | $\dashv$ | +        | ㅓ         |
|  | 4        | -             | -               | _ | -  | ├-         | ╀        | ╁            | +       | +            | 3    |          | 54       | _        | $\vdash$         | +             |               | ┿                 |          | 4           |       | 103        |          | -        | $\dashv$  | $\dashv$ | -        | -        | $\dashv$ | -        | $\dashv$  |
| <u> </u>   | 5        | -             |                 | _ | $\vdash$   | $\vdash$   | ╁        | +            | +-      | +            | 慌    |          | 55       |          | $\vdash$         | -             | +             | + +               |          |             |       | 105        |          | $\dashv$ | ┪         | $\dashv$ | -        | _        | $\dashv$ | $\dashv$ | ᅱ         |
|  | 6        |               |                 |   | $\vdash$   | $\vdash$   | $\vdash$ | +            | +       | +-           |      |          | 56       |          | 1                | _             | $\dashv$      | 1 1               |          |             |       | 106        |          | _        | 一         |          | _        | ヿ        | $\dashv$ | 十        | $\dashv$  |
| $\vdash$   | 7        |               |                 |   | $\vdash$   | ╁          | 1-       | +-           | +       | +            |      |          | 57       |          | $\Box$           | $\dashv$      | $\neg$        | 11-               | $\top$   |             |       | 107        |          |          |           | $\neg$   | $\neg$   | $\neg$   | $\neg$   | ヿ        | ヿ         |
|  | 8        |               |                 |   |  | 1-         | ✝        | +            | +       | $\top$       |      |          | 58       |          | $\Box$           | $\rightarrow$ |               |                   |          |             |       | 108        |          |          |           | 一        | 一        | $\neg$   | $\neg$   | $\neg$   |           |
|  | 9        |               |                 |   |  |            | T        | 1            | T       | 1            |      |          | 59       |          | $\Box$           |               | $\top$        | $\top$            |          | 7           |       | 109        |          |          |           |          |          |          |          | 丁        | $\exists$ |
|  | 10       |               |                 |   |  | T          |          | 1            | 1       | 1            |      |          | 60       |          | $\Box$           |               |               |                   |          |             |       | 110        |          |          |           |          |          |          |          | $\Box$   |           |
|  | 11       |               |                 |   |  |            | I        |              | 1       |              | ]\$* |          | 61       |          |                  |               |               |                   |          |             |       | 111        |          |          |           |          |          |          |          |          |           |
|  | 12       |               |                 |   |  |            | $\Box$   | oxdot        | Ι       | Ι            |      |          | 62       |          |                  |               |               |                   |          |             |       | 112        |          |          | $\Box$    | $\Box$   | $\Box$   | $\Box$   | $\Box$   | $\bot$   | $\Box$    |
|  | 13       |               |                 |   |  | Ĺ          |          |              | I       | Ţ            |      |          | 63       |          | $\Box$           | $\bot$        |               | $\prod$           |          |             |       | 113        | Ш        |          | $\Box$    | _        |          | ]        |          |          |           |
|  | 14       |               |                 |   |  | L          | 匚        | $oxed{\bot}$ | $\perp$ | 工            |      |          | 64       |          | $\sqcup$         | $\perp$       |               | $\bot$            |          |             |       | 114        | Щ        |          | _         |          |          | _        | _        | $\dashv$ | _         |
|  | 15       |               | $\sqcup$        |   | <u> </u>   | _          | 1_       | $\bot$       | 1       | $\perp$      |      |          | 65       |          | $\sqcup$         | _             |               | $\bot \bot$       | 4        |             |       | 115        | L        |          | 4         | 4        | _        | _        | _        | $\dashv$ | ᆜ         |
|  | 16       | <u> </u>      |                 |   | _  | $\perp$    | $\perp$  | <del> </del> | ╀       | $\bot$       |      |          | 66       |          | $\sqcup$         | $\dashv$      |               | $\bot \downarrow$ |          |             |       | 116        |          |          |           | _        | _        | _        | _        | $\dashv$ | _         |
|  | 17       |               |                 |   | <u> </u>   | ↓_         | 1        | ↓_           | 4       | $\perp$      | 1 (  | <u> </u> | 67       | _        | $\sqcup$         | -             | +             | 1                 | _        | - 11        |       | 117        |          |          | _         | 4        | -        |          | -        | $\dashv$ | $\dashv$  |
|  | 18       |               | _               | _ | _  | <b> </b> _ | 1        | ╄-           | 4       | +            |      |          | 68       |          | $\vdash$         | $\dashv$      | +             | ++                | $\perp$  |             |       | 118        |          |          | $\dashv$  |          | -        |          | -        | -        | $\dashv$  |
|  | 19       |               |                 |   | ļ  | ↓_         | ╀        | -            | _       | -            |      |          | 69       |          | -                |               |               | +                 | -1-      | 7           |       | 119        |          |          |           | $\dashv$ |          | $\dashv$ | $\dashv$ | $\dashv$ | $\dashv$  |
|  | 20       | _             |                 |   |  | ╀          | ╀        | -            | +       | +-           |      |          | 70       |          | +-               | -             | -             | +                 | $\dashv$ |             |       | 120        |          |          | -         |          | -        | $\dashv$ | $\dashv$ | -+       | $\dashv$  |
|  | 21       | _             |                 |   | _  | ╀          | ╀        | ╀            | ╀       | -            |      |          | 71<br>72 |          | -                | -             |               | +                 | +        |             |       | 121<br>122 |          |          | -         | -        | $\dashv$ | $\dashv$ | $\dashv$ | ᆉ        | $\dashv$  |
|  | 22       |               | -               |   |  | ⊢          | +        | +            | ╁       | ┿            |      |          | 73       |          | +                |               | -             | +                 | +        |             |       | 123        |          |          | $\dashv$  | -        | -        | $\dashv$ | $\dashv$ | +        | $\dashv$  |
|  | 24       |               |                 |   | ┢  | ╁          | ╁        | ╁            | ╁       | +            |      |          | 74       |          | $\vdash$         | $\dashv$      | +             | +                 | +        |             |       | 124        |          |          | $\dashv$  | $\dashv$ | $\dashv$ | $\dashv$ | -        | $\dashv$ | $\dashv$  |
|  | 25       |               | $\vdash$        |   | -  | +-         | ╁        | ╁            | ╁       | +            |      |          | 75       |          | +                | $\dashv$      | $\dashv$      | +                 | +        |             |       | 125        | _        |          | $\dashv$  |          | $\dashv$ | $\dashv$ | $\dashv$ |          | ᅱ         |
| _  | 26       |               |                 |   |  | ╁          | ╁        | +            | ╁       | +-           | -    |          | 76       |          | +                | $\dashv$      | $\dashv$      | ++                | +        |             |       | 126        |          |          | $\neg$    |          | $\dashv$ | $\dashv$ | $\dashv$ | 十        | ᅱ         |
|  | 27       |               |                 | _ | ╁  | $\vdash$   | +        | +            | ✝       | +            |      |          | 77       |          | $\Box$           | $\dashv$      |               | ++                | +        |             |       | 127        | _        |          | $\neg$    | 一        | $\neg$   | _        | _        | 寸        | $\dashv$  |
|  | 28       |               |                 |   |  | $\vdash$   | +-       | +            | t       | +            |      |          | 78       |          | $\Box$           | 寸             |               | 1                 | _        |             |       | 128        |          | -        |           |          | $\neg$   | $\neg$   | $\neg$   | $\neg$   | $\dashv$  |
|  | 29       |               |                 |   |  | $\vdash$   | T        | ✝            | 1       | _            | 1    |          | 79       |          |                  | $\neg$        | 1             | 11                | $\top$   |             |       | 129        |          |          | T         |          |          |          | $\neg$   | ヿ        | 乛         |
|  | 30       |               |                 | _ |  | $\vdash$   |          | 1            | 1       |              |      |          | 80       |          | П                | 寸             | $\neg \vdash$ | 11                |          |             |       | 130        |          |          |           |          |          | 一        |          | 寸        | 乛         |
|  | 31       |               |                 |   |  | T          | $\top$   | $\top$       | $\top$  | $\top$       |      |          | 81       |          |                  | $\neg$        | 一             |                   |          | 8.4         |       | 131        |          |          | $\neg$    | T        |          | $\neg$   | T        | $\neg$   | $\neg$    |
|  | 32       |               |                 | _ |  |            |          | T            | I       |              |      |          | 82       |          |                  |               |               |                   |          | 74          |       | 132        |          |          | ┚         |          |          |          |          | $\Box$   |           |
|  | 33       |               |                 |   |  |            |          | $oxed{\Box}$ | Ι       | $\mathbb{T}$ | ].#  |          | 83       |          |                  |               |               |                   |          |             |       | 133        |          |          |           |          |          |          | $\Box$   | $\Box$   |           |
|  | 34       |               |                 |   |  | L          |          |              | I       |              |      |          | 84       |          | $\Box$           | $\Box$        |               | $\prod$           |          |             |       | 134        |          |          |           |          |          |          | $\perp$  | $\dashv$ | _         |
|  | 35       |               |                 |   | <u>_</u>   | L          | L        |              | L       |              |      |          | 85       |          | $\sqcup$         | _             | _ _           | $\bot \bot$       | $\perp$  |             |       | 135        |          | $\sqcup$ | _         | _        | $\dashv$ | _        | _        | _        | _         |
| igsquare   | 36       | <u> </u>      |                 |   | <u> </u>   | _          | 1_       | 4_           | 1       | 1_           |      |          | 86       |          | $\sqcup$         | $\dashv$      |               | $\bot \bot$       |          |             |       | 136        | Ш        | $\sqcup$ |           |          | _        |          | _        | 4        | _         |
| L  | 37       |               |                 |   |  | L          | <u> </u> | 1_           | 1       | _            |      |          | 87       |          | $\sqcup$         | _             | _             | ++                | $\perp$  |             |       | 137        | Ш        | Н        | _         |          | _        |          | $\dashv$ | 4        | $\dashv$  |
| $\vdash$   | 38       |               | Ш               |   | _  | 1          | ↓_       | 4_           | +       | +-           |      |          | 88       |          |                  | $\dashv$      |               | ++                | +        |             |       | 138        | _        | $\dashv$ | -         |          |          |          | $\dashv$ | $\dashv$ | $\dashv$  |
| Ÿ  | 39       | <u> </u>      | $\sqcup$        |   | <u> </u>   | ╀-         | ┼-       | +-           | +-      | 4-           | -    | ļ        | 89       |          | -                | $\dashv$      | _             | ++                | +        |             |       | 139        | $\vdash$ | $\dashv$ |           |          | -        | -        | $\dashv$ | $\dashv$ | $\dashv$  |
|  | 40       |               | $\vdash$        |   | ⊢  | $\vdash$   | +        | +            | +       | +            | 1.00 | -        | 90       | $\vdash$ | $\dashv$         | $\dashv$      | +             | ++                | +        | - " : : : : |       | 140        |          | $\dashv$ | $\dashv$  | -        | $\dashv$ |          | -        | $\dashv$ | $\dashv$  |
|  | 41       | $\vdash$      | $\vdash \vdash$ |   | $\vdash$   | ⊢          | +        | +            | +       | +-           | 14   | $\vdash$ | 91<br>92 | $\vdash$ | $\dashv$         | $\dashv$      | +             | ++                |          |             |       | 141        | -        | $\dashv$ | $\dashv$  | -        | $\dashv$ | $\dashv$ | -        | $\dashv$ | $\dashv$  |
| $\vdash$   | 42       | $\vdash$      |                 | _ |  | ╀          | ╁        | +            | +       | +-           |      | <b>-</b> | 93       | $\vdash$ | $\dashv$         | -             | -             | ╅╾┼               | +-       |             |       | 143        | $\vdash$ | $\vdash$ | $\dashv$  |          | $\dashv$ | -        | $\dashv$ | $\dashv$ | $\dashv$  |
| <del>                                     </del> | 43       | -             | $\vdash$        |   | $\vdash$   | ╁          | +        | +            | ╁       | +-           | 桶    | _        | 94       |          | +                | $\dashv$      | +             | ++                | +        | H           |       | 144        | $\vdash$ | $\vdash$ | $\dashv$  |          |          |          |          | $\dashv$ | $\dashv$  |
| $\vdash$   | 45       | -             | $\vdash$        |   | $\vdash$   | ╁          | ╁        | +            | +       | +            |      |          | 95       | +        | $\vdash$         | $\dashv$      | +             | ++                | +        |             |       | 145        |          | $\vdash$ | $\dashv$  |          | $\dashv$ |          | $\dashv$ | $\dashv$ | $\dashv$  |
| $\vdash$   | 46       | $\vdash$      | $\vdash$        |   | $\vdash$   | +          | +        | +            | +       | +-           |      |          | 96       | $\vdash$ | <del>  -  </del> | $\dashv$      | ┰             | +-+               | +        |             |       | 146        | -        | $\vdash$ |           | _        | $\dashv$ | $\dashv$ | $\dashv$ | $\dashv$ | $\dashv$  |
| <u> </u>   | 47       | -             | $\vdash$        | _ | $\vdash$   | +          | +        | +            | +       | +            | 1.0  |          | 97       |          | +                | $\dashv$      | $\dashv$      | ++                | +        | r 1         |       | 147        | $\vdash$ | $\vdash$ | $\dashv$  |          | $\dashv$ | $\vdash$ | +        | $\dashv$ | $\dashv$  |
|  | 48       |               | $\vdash$        | _ | <del>                                     </del> | +          | +-       | +-           | +       | +            | 1    |          | 98       |          | +                | -             | +             | ++                | -        |             |       | 148        |          | $\vdash$ | ┪         | -        | $\dashv$ | -        | $\dashv$ | 十        | $\dashv$  |
| $\vdash$   | 49       | $\vdash$      | $\vdash$        | _ | 1  | T          | †        | T            | t       | +            | = 4  |          | 99       |          | H                | 十             | 十             | ++                | $\top$   |             |       | 149        |          | $\vdash$ | $\dashv$  |          | $\neg$   | -        | 寸        | ヿ        | $\dashv$  |
|  | 50       | Г             |                 |   | Г  |            | $\top$   | $\top$       | Ť       | †            | 1    |          | 100      |          | П                | 寸             | 十             | $\top$            |          |             |       | 150        |          |          | $\exists$ |          |          |          |          | $\neg$   | $\neg$    |